

Amendment to the Claims

The following listing of claims will replace all prior versions and listings of claims in the application:

1-31. (canceled)

32. (Currently amended) A method of inducing an immune response against an infection caused by *Neisseria meningitidis* or *Neisseria gonorrhoeae* bacteria ~~from a *Neisseria* genus~~ in a human in need thereof, comprising administering to the human an effective amount of a recombinant protein comprising an amino acid sequence set forth in SEQ ID NO.: 4.

33. (Canceled)

34. (Canceled)

35. (Currently amended) A method of inducing an immune response against an infection caused by *Neisseria meningitidis* or *Neisseria gonorrhoeae* bacteria ~~from a *Neisseria* genus~~ in a human in need thereof, comprising administering to the human an effective amount of a pharmaceutical composition comprising a recombinant protein and a pharmaceutically acceptable carrier, wherein the protein comprises an amino acid sequence set forth in SEQ ID NO: 4 ~~and a pharmaceutically acceptable carrier~~.

36. (Previously presented) The method according to claim 35, wherein the pharmaceutical composition further comprises a polysaccharide antigen.

37. (Previously presented) The method according to claim 36, wherein the polysaccharide antigen is a capsular polysaccharide of *Neisseria meningitidis*.

38. (Previously presented) The method according to claim 35, wherein the pharmaceutical composition further comprises a bacterial polysaccharide-protein conjugate, wherein said protein comprises an amino acid sequence set forth in SEQ ID NO: 4.

39. (Canceled)
40. (Previously presented) The method according to claim 35, wherein the pharmaceutical composition further comprises a peptide antigen.
41. (Canceled)
42. (Canceled)
43. (Previously presented) The method according to claim 35, wherein the pharmaceutical composition is administered parenterally.
44. (Previously presented) The method according to claim 35, wherein the pharmaceutical composition is administered mucosally.
45. (Previously presented) The method according to claim 44, wherein the pharmaceutical composition is administered orally.
46. (Canceled)
47. (New) A method of inducing an immune response against an infection caused by *Neisseria meningitidis* or *Neisseria gonorrhoeae* bacteria in a human in need thereof, comprising administering to the human an effective amount of a recombinant protein encoded by an amino acid sequence consisting of SEQ ID NO.: 4.
48. (New) A method of inducing an immune response against an infection caused by *Neisseria meningitidis* or *Neisseria gonorrhoeae* bacteria in a human in need thereof, comprising administering to the human an effective amount of a pharmaceutical composition comprising a recombinant protein and a pharmaceutically acceptable carrier, wherein the protein comprises an amino acid sequence set forth in SEQ ID NO: 4.